Curriculum Vitae

Salvalai Graziano
Building Engineer - Architect, PhD – Associate professor at Politecnico di Milano (IT)

Nationality: Italian (Born on May 12th, 1981 in Iseo - Brescia – Italy)
Home: Lecco - Italy
Office address: A.B.C. Department, via Ponzio 31, 20133 Milan, Italy
D.: (+39) 02 23998791

E-Mail: graziano.salvalai@polimi.it
Skype account: graziano.salvalai

PERSONAL DETAILS

Graziano Salvalai graduated in Building and Architectural Engineering at Politecnico di Milano, Italy, in 2006. He gets the PhD in 2010 with a thesis on passive cooling strategies for non-residential building in Mediterranean climate. In 2009 he was visiting scientist at Fraunhofer Institute for Solar Energy System in Freiburg (Germany) in the Solar Building Department. In 2017 he was visiting scientist at the Power System Design and Studies Group of the National Renewable Energy Laboratory (NREL) Colorado, USA. During September 2018 he was visiting professor at Colorado University at Boulder – Colorado, USA. Department of Civil, Environmental and Architectural Engineering. He is currently associate professor at Politecnico di Milano, ABC Department (Architecture Built environment and Construction engineering). Since October 2019 he gets promotion to the rank of Associate Professor. He his staff member of the Building Refurbishment and Energy Efficiency Laboratory (RE3_Lab) at Politecnico di Milano - Polo Territoriale di Lecco (IT). His research and teaching activities focus on innovation of construction techniques with particular attention to the integration of building-system and its control through energy simulation programs. The outcome of researches is often tested on real, experimental buildings. He is the author and reviewer of several articles on peer review journals. He is coordinator of several consultancy work in the field on energy efficient technologies for low energy buildings.

He is local coordinator of the following Horizon 2020 funded project:

- H2020 (2020-2023) - EPC RECAST EPC Recast. Energy Performance Certificate Recast. Topic: set a well-structured process and a toolbox supporting the development, implementation and validation of a new generation of energy Performance Assessment and Certification with focus on residential buildings.
- H2020 (2019-2022) - EENVEST - (Risk reduction for Building Energy Efficiency investments). Topic: supporting investors' decision making process by translating building's energy efficiency technical requirements into economic indicators.
- H2020 (2017-2020) - ALDREN - (ALliance for Deep RENovation in buildings implementing the European Common Voluntary Certification Scheme). Topic: higher renovation rates and better renovation quality for hoffices and hotels

He is also local coordinator of the following PRIN (Research Projects of National Relevance) project funded by Ministry of Education, University and Research (MIUR):

- PRIN (2019-2022) - BE S2ECURe - (make) Built Environment Safer in Slow and Emergency Conditions through behavioUral assessed/designed Resilient solutions.

He participated to the following founded project as a member of the research team:

- FESR Lombardy region (IT) - HOMeBIM liveAPP 2017-2018. Topic: Increase the energy efficiency of building, integration between BIM and sensors.
- EU (FP7) – EASEE 2013-2015 - (Envelope Approach to Improve Sustainability and Energy efficiency existing in multi-storey multi-owner residential buildings). Topic: energy strategies for building envelope retrofitting.
- EU – IEE – ThermCo 2007-2009 (Low Energy Cooling and Thermal Comfort – Intelligent Energy – Europe founded project). Topic: Thermal comfort in office building with low energy consumption.
- VALTELLINA ECOENERGY project. Topic: Energy labeling protocol for high-energy efficient building in Alpine Region (Province di Sondrio – IT).
- RACEM project (Rete Artigiana per la Casa Efficiente in Montagna): network for high energy efficiency building in Alpin Area (Province of Sondrio – Italy).

EDUCATION

- September 2018 - Visiting professor at Colorado University at Boulder – Colorado, USA. Department of Civil, Environmental and Architectural Engineering.
- July 2018 - Guest researcher at Drexel University, Philadelphia, USA.
- June - August 2017 - Guest researcher at National Renewable Energy Laboratory NREL, Golden, Colorado, USA. Group of Power System Design and Studies. He was involved in the collaborative research “building as sensors” coordinated by Ph.D. Bri-Mathias Hodge.
- June - August 2017 - Visiting professor at Colorado University at Boulder – Colorado, USA. Department of Civil, Environmental and Architectural Engineering. He was involved in collaborative educational efforts in the class of Prof. Gregor P. Henze.
- April 2008 – January 2010 - Guest researcher at Fraunhofer Institute for Solar Energy System ISE, Freiburg i.B., DE (Solar Building Department, head: Dr. Sebastian Herkel). He study the energy modeling of buildings with emphasis on the result’s validation through monitoring data of real buildings.
- 2007 - 2010 PhD in building engineering. He graduated “cum laude” in 2010 at the Building Environment Science and Technology department of Politecnico di Milano with a Thesis titled “Passive devices for summer climate control in buildings: design tools and technological issues for Mediterranean climate”, supervisor Prof. Ettore Zambelli – Co-supervisor Dr. Jens Pfafferott.
- 2006 - Master Science in Ingegneria Edile-Architettura in 2007 at Politecnico di Milano (degree mark 110/110) with a thesis titled “Cala_RSI refurbishment, sustainability and innovation, contemporary architectural design in the historical city center of Palermo”, supervisor Prof. Ettore Zambelli.
- 2006 - Licensed Professional Engineer in 2007 at Politecnico di Milano (Italy)

AWARDS AND RESEARCH FELLOW RECEIVED

2010/2013 Politecnico di Milano forty months research fellowship with the title: "Misure comunali per il miglioramento dell'efficienza energetica e della sostenibilità ambientale delle costruzioni alpine in vista dell'obiettivo 20-20-20 dell'Unione Europea"

2008/2009 Fraunhofer Institute for solar energy systems – "Energy efficient buildings group". Visiting scientist in the research group of Prof. Jens Pfafferott.

2006/2009 Politecnico di Milano PhD research followship. Title of the research project: Low energy cooling strategies for office buildings in Mediterranean Climate.

2000/2006 Politecnico di Milano - First class degree in Ingegneria Edile-Architettura (Building and Architectural Engineering - 5 year course)

RECENT TEACHING ACTIVITY

He teaches at Politecnico di Milano since 2011

2011-2013 Sistemi edilizi ad alta efficienza energetica" (6 ECTS credits) in the 5-year Master in Building Engineering – Architecture in Lecco (Italy). [high]*.

2013-2016 "Final Studio Lab" (3 ECTS credits) in the 5-year Master in Building Engineering – Architecture in Lecco (Italy).

2012-2014 *"CAD Lab" (3 ECTS credits)* in the 5-year Master in Building Engineering – Architecture in Lecco (Italy). [high]*.

2013 Teaching assistant of Prof. ssa Manuela Grecchi (course of Building Refurbishment in the Building engineering course in Milano).

Since 2013 "Energy efficient buildings", taught in English (6 ECTS credits) in the 5-year Master in Building Engineering and Architecture and in the 2-year Master in Architectural Engineering in Lecco (Italy). [high]*.

2014-2016 Assistant Professor teaching "Architectural technology studio" (3 ECTS credits) in the 5-year Master in Building Engineering – Architecture in Lecco (Italy). [high]*.

Since 2017 "Building technology and services" (6 ECTS credits) in the 3-year Bachelor in Building Engineering and Construction – Milano (Italy). [high]*.

*Scores attributed by Politecnico di Milano: high>3; 2<Medium>3, Low<2

ACCADEMIC MANAGEMENT ACTIVITIES

- Since 2012. Manager of the "Final studio Lab" of the master program of 5-year Master in Building Engineering – Architecture in Lecco (IT).
- Since 2011. Teacher of the Sustainable Construction for the "Prospero" program for high school's students organize by Politecnico di Milano (IT).
- 2013. Member of the Board of Examiners for Engineering Licenses at Politecnico di Milano (IT).
- Since 2015. Member of several Boards of Examiners of ABC Department of Politecnico di Milano for the assignment of research grants.
- Since 2011 he is scientific coordinator of the "Sustainable Building Class" for the activity Winter School, Teodoro Merlini, for high school's students at Politecnico di Milano (IT).
- Since 2015, he is responsible of the students' admission procedure for Italian and international students applying to the master program in the 5-year Master in Building Engineering – Architecture in Lecco (IT).
- Since 2017. Scientific coordinator of the Global Intensive Class – Energy System for the Built Environment (ESBE). Intensive two weeks workshop organized with the University of Colorado at Boulder, Colorado, USA, Prof. Gregor P. Henze.
- Since 2017 Scientific director of the agreement between Politecnico di Milano and ING srl.

- Since 2019 Member of the scientific committee of the agreement between Politecnico di Milano and Club Alpino Italiano (CAI).

RESEARCH ACTIVITY

COMPETITIVE RESEARCH

2007/2009 Intelligent Energy Europe Program (IEE).
ThermCo - Thermal comfort in buildings with low-energy cooling – Establishing an annex for EPBD-related CEN-standards for buildings with high-energy efficiency and good indoor environment. (Project Coordinator: Fraunhofer ISE, Germany). Topic: evaluate low-energy cooling concepts all-over Europe using a standardised method based on existing monitoring data from best practice examples, provided design guidelines for typical building concepts.
Role: Project member and Coordinator of Task 2.5.

2012/2016 European Union Seventh Framework Program (FP7).
EASEE: Envelope Approach to improve Sustainability and Energy efficiency in Existing multi-storey multi-owner residential buildings (Project Coordinator: D'Appolonia, Italy). Topic: development of methodologies and technological solutions for the energy retrofit of multi-storey housing built after between the 1950s and the 1970s; in particular, through the improvement of performances of the walls.
Role: Research Staff Member.

2014/2015 European Regional Development Fund (ERDF) - Lombardy Region.
SCUOLA: Smart Campus as Urban Open Labs. Topic: development of a smart system able to integrate the various aspect of a smart grid such as renewable energy production, building loads and user's comfort.
Role: Research Staff Member.

2017/2020 European Regional Development Fund (ERDF) - Lombardy Region.
Smart Living: integrazione tra produzione servizi e tecnologia nella filiera costruzioni-legno-arredo-casa. Project name: "HOMeBIM liveAPP: Sviluppo di una Live APP multi-utente della realtà virtuale abitativa 4D per il miglioramento di comfort-efficienza-costi, da una piattaforma cloud che controlla nel tempo il flusso BIMsensori". Topic: develop app that integrate in the BIM model a continuous internal comfort monitoring for users awareness.
Role: Research staff member.

2017/2019 European Commission (H2020 program).
ALliance for Deep RENovation in buildings (ALDREN) Implementing the European Common Voluntary Certification Scheme, as back-bone along the whole deep renovation process. Topic: achieve higher renovation rates and better renovation quality by overcoming market barriers and preparing the ground for investment. Develop a building passport to ensure the results and effective financing in case of step by step renovation.
Role: Scientific coordinator for Politecnico di Milano and task leader.

2017/2020 European Commission (H2020 program).
EENVEST 2019-2022 – (Risk reduction for Building Energy Efficiency investments). Topic: supporting investors' decision making process by translating building's energy efficiency technical requirements into economic indicators.
Role: Scientific coordinator for Politecnico di Milano and subtask leader.

2019/2022 Ministry of Education, University and Research (MIUR) – PRIN Research Projects of National Relevance.
BE S2ECURe 2019-2022 – BE S2ECURe - (make) Built Environment Safer in Slow and Emergency Conditions through behavioUral assessed/designed Resilient solutions. Topic: study of slow event disaster in dense Build Environment consitions.
Role: Scientific coordinator for Politecnico di Milano and WP leader.

2020/2023 European Commission (H2020 program).
EPC Recast. Energy Performance Certificate Recast. Topic: set a well-structured process and a toolbox supporting the development, implementation and validation of a new generation of energy Performance Assessment and Certification with focus on residential buildings.
Role: Scientific coordinator for Politecnico di Milano and WP leader.

OTHER RESEARCH ACTIVITIES

2007 Client: Ing Srl, Bergamo (Italy)
"Aggiornamento dei Regolamenti Edilizi dei Comuni della Valle Imagna con misure per l'efficienza energetica". The project activities concern the design of strategies aiming to reduce the building sector impact for refurbish and new buildings.
Scientific coordinator: Prof. Gabriele Masera.
Role: research staff member

2007 Client: GR informatica, Lecco (Italy)
Takes part in the research for the design of the new headquarters of G.R. Informatica S.r.l., Lecco, Italy. The building has an innovative approach to the integration of envelope and services, with high energy efficiency and low emissions.
Scientific coordinator: Prof. Ettore Zambelli
Role: Consultant

2010/2011 Client: Comune di Bellagio.
Takes part in the research and consultancy work "Predisposizione degli studi per la redazione del Piano di Governo del Territorio". Topic: analysis of the current situation about energy use and carbon emissions in the city, and elaboration of strategies for the energy efficiency of the built environment, to be included in the land management plan for the city of Bellagio, Italy.
Scientific director: prof. Danilo Palazzo
Role: research staff member

2011/2012 Client: Unione Artigiani della Provincia di Sondrio (Italy)
Project name: "Definizione delle misure per il miglioramento dell'efficienza energetica e della sostenibilità ambientale delle costruzioni in area alpina vista dell'obiettivo 20-20-20 dell'Unione europea. The aim of the project are: establish a network connection between artisan businesses for high-energy efficient buildings and analyses the existing practice of small construction companies in Valtellina (Lombardy, Italy) and the development of a "best practice" protocol towards the 2020 targets.
Scientific director: proff. Marco Imperadori and Gabriele Masera
Role: research staff member

2011/2014 Client: Ing. Srl Bergamo (Italy)
Monitoring and data analysis of one house of "CasaSelvino". High energy efficiet settlement in Selvino, Bergamo (Italy).

Role: project coordinator activities

2012/2013 Client: Azienda Lombarda Edilizia Residenziale - Milano, Italy
Assessment of different options for energy retrofitting (building + services) of a social housing complex in Calolziocorte (LC) considering reduction of internal comfort, energy consumption and return on investment (ROI). Support to detailed design.
Role: research staff member

2012/2013 Client: Multiphysix Lab S.c.a.r.l. – Bergamo (Italy)
Project name: CommisionIng: analysis and develpment of an innovative energy monitoring systems to improve energy efficiency in buildings.
Role: project coordinator activities

2010-2013 Client: Ing.Srl (Bergamo)- Val Cavallina servizi Srl (Trescore Balneario)
"Misure comunali per il miglioramento dell'efficienza energetica e della sostenibilità ambientale delle costruzioni in vista dell'obiettivo 20-20-20 dell'Unione Europea". Design, submission and monitoring of several Sustainable Energy Action Plan (SEAP) for 15 small municipality of Val Cavallina Valley (Bergamo) within the European Covenant of Mayor program.
Scientific coordinator: Prof. Gabriele Masera.
Role: project coordinator activities

2012/2013 Client: Politec Valtellina, Sondrio (Italy)
Project name: "Definizione delle strategie generali di un protocollo volontario per il miglioramento dell'efficienza energetica e della sostenibilità ambientale delle costruzioni in area alpina". The aim is to develop of a voluntary protocol for the quality control of the design and construction process of energy-efficient buildings, with the involvement of stakeholders and the subsequent monitoring of its application in practice.
Scientific director: proff. Marco Imperadori and Gabriele Masera
Role: research staff member

2015 Client: Ing srl - Bergamo, Italy
Measure of different window's glass performance (temperatures and U values) in a residence for elderly people.
Role: project coordinator activities

2014/2016 Client Politec Valtellina – Montagna in Valtellina – Sondrio, Italy
Sviluppo di azioni di coordinamento e supporto per l'applicazione del protocollo volontario di certificazione provinciale Valtellina Ecoenergy". The main action is to support the training and dissemination activities related to the application of the voluntary protocol "Valtellina Ecoenergy" about the sustainability and energy efficiency of constructions in the Valtellina area.
Role: scientific coordinator with Proff. Marco Imperadori and Gabriele Masera.

2016 Client: Politecnico di Milano Polo Territoriale di Lecco - Lecco, Italy
C-ASA, design and construction of a small office building with high-energy efficiency at Politecnico di Milano – Polo Territoriale di Lecco (Italy).
Role: research staff member and construction activities coordinator.

2016 Client: Politecnico di Milano - Milano, Italy
EDZEN – Zero Energy Building in a University Campus – Politecnico di Milano – Bovisa Campus (MI)

Role: member of the preliminary design team

2016 Client: Mariana Franco srl – Andalo Valtellino, SO, Italy
"Analisi dello stato dell'arte e studio di soluzioni tecnologiche in legno (telaio e CLT) innovative".
Assessment of different technological options for high energy efficient buildings in Alpine Space. Support to dissemination activities.
Role: project coordinator

2017 Client: Brianza Plastica, Monza Brianza, Italy.
Scientific director of the consultancy work "Misura in situ del comportamento di diverse soluzioni tecnologiche di facciata ventilata e relativo confronto con le soluzioni tradizionale a cappotto non ventilate". Topic: long term monitoring campaign of different insulated ventilate façade under different weather conditions.
Role: scientific director.

2017 Client: Polidesign, Milano, Italy.
Scientific director with prof. Marco Imperadori of the consultancy work "Definizione dei requisiti per la progettazione di edifici ad energia quasi zero in Europa. Analisi dello stato dell'arte e dello sviluppo normativa. Raccolta e analisi di casi studio esemplari". Topic: Zero Energy Building definition and assessment. Analysis of the state of art.
Role: scientific director with Prof. Imperadori

2018 Client: Polidesign, Milano, Italy.
Scientific director with prof. Marco Imperadori of the consultancy work "Structura". Topic: architectural and technical analysis of cold steel frame structure for high energy efficient building. Analysis of the state of art and future application.
Role: scientific director with Prof. Imperadori.

2019 Client: Isopan, Verona, Italy.
Scientific director with prof. Marco Imperadori of the consultancy work "Isopan Universal". Topic: study and development of a new universal panel for wall construction.
Role: scientific director with Prof. Imperadori.

2019 Client: Ing srl, Bergamo, Italy.
Scientific director of the consultancy work "Domus Pulchra". Topic: study and development of an experimental building with dry based construction and straw as an alternative insulation material.
Role: scientific director.

OTHER ACTIVITIES

2012 Staff member of the international workshop "Shelter Paperboard Workshop". Politecnico di Milano; l'Università degli Studi di Palermo; Kogakuin University, Tokyo (JP); Singapore Polytechnic (SGD); Universitas Indonesia of Jakarta (RI); and the ESPE school (IT).

2013 Staff member of the international workshop "Scaffold house and Cardboard Wall Workshop". Politecnico di Milano; l'Università degli Studi di Palermo; Kogakuin University, Tokyo (JP); Singapore Polytechnic (SGD) and the ESPE school (IT).

2015 Member of the research and design team of of Politecnico di Milano taking part in the 4th completion LIXIL International University Architectural Competition "Productive Garden ― A Space for Enjoying Hokkaido with All Five Senses".

2016 Member of the research and design team of of Politecnico di Milano taking part in the 5th edition of the LIXIL International University Architectural Competition "Next generation sustainable house in Taiki-Cho: House for enjoying the Harsh Cold".

2014-2017 Member of the board for the project "Valtellina Ecoenergy protocol". A certification procedure for high energy efficient building in the Alpin Area.

CONTRIBUTIONS TO CONFERENCES, MASTER, ETC.

Since 2008, he contributed to around 70 conferences, courses and masters in Italy and abroad, on the topic of innovative building technologies, energy efficiency and the retrofit of existing buildings.

INVITED REVIEWER FOR INTERNATIONAL PEER-REVIEW JOURNAL

He has reviewed more than 100 paper for several international peer-review journals (Energies, Applied Energy, Buildings, Sustainability, Applied Thermal Engineering, Ashrae Journal, Energy Conversion and Management, Building and Environment, Renewable and Sustainable Energy Reviews, etc.).

SCIENTIFIC PUBLICATIONS

ORCID: HTTPS://ORCID.ORG/0000-0001-6286-809X
SCOPUS ID: 55014350500
PLEASE FIND THE COMPLETE LIST OF PUBLICATIONS AT: WWW.RE.PUBLIC.POLIMI.IT

INTERNATIONAL AND NATIONAL CONFERENCE

1. Salvalai, G, previtali, M, Banfi, F (2019). MODELLAZIONE BIM AD OGGETTI INTEGRATA CON ANALISI DATI IN TEMPO REALE: UN CASO DI STUDIO. In: (a cura di): Emilia Garda Caterina Mele Paolo Piantanida, Ingegno e costruzione nell'epoca della complessità. Forma Urbana e individualità architettonica.. p. 824-833, Edizioni Politecnico di Torino, ISBN: 9788885745292, Torino.
2. Salvalai, G.; Imperadori, M.; Sesana, M. M.; Baccaro, M.; Del Favero, L.; Tagliabue, A. Re-designing a temporary pavilion into a NZEB open lab for a university campus. X IAQVEC 2019 - 10 th international conference on indoor air quality, ventilation and energy conservation in buildings, Bari, Italy.
3. Imperadori, M.; Vanossi, A.; Brunone, F.; Salvalai, G.; Scoccia, R. Active House and sensors' monitoring campaign towards the final user: VELUXlab, a smart building prototype. 51st international conference the human dimension of building energy performance. 20-22 febbraio 2019, pp. 135 – 148.
4. Colombo, I.; Colombo, M.; di Prisco, M.; Salvalai, G.; Sesana, M. TRC sandwich panel for energy retrofitting exposed to environmental thermal actions. 2018. SP-326: Durability and Sustainability of Concrete Structures (DSCS-2018), Moscow. American Concrete Institute, ACI Special Publication.
5. Salvalai, G.; Sesana, M. M.; Grecchi, M. Stato dell'arte ed evoluzione dell'attestato di prestazione energetica degli edifici nel contesto europeo. Colloquiate 2018, Cagliari 12-14 Settembre 2018: Edilizia circolare tra recupero/riqualificazione e rinnovo/rigenerazione urbana e architettonica. Book of abstract. pp. 174-175, Edicom Edizioni.
6. Imperadori, M; Salvalai, G; Brunone, F; Fumagalli, M. A.; Scoccia, R. The Sense of Sensors. International Conference on Smart, Sustainable and Sensuous Settlements Transformation (3SSettlements) Proceedings, 2018, pp 169-175.
7. Salvalai, G., Imperadori, M., Lumina, F.F., Mutti, E., Polese, I. Architecture for refugees, resilience shelter project: A case study using recycled skis. Procedia Engineering, 2017, vol 180, pp 1110-1120

8. Malighetti, L.,E., Salvalai, G., Method for the renovation of the school buildings stock of the municipality of Lecco, Italy. Investigando en Ingeniería de Edificación EXCO 2017, XXXI Salón Tecnológico de la Construcción – Exco 2017, pp 122-124
9. Salvalai G. Comparative measurement of the insulation properties of different materials and facade system coupled with Cross Laminated Timber construction. Colloqui.AT.e 2017 Demolition or reconstruction? Conference proceeding, pp. 652-662
10. Brambilla, G. Salvalai, M. Imperadori. Active House in Mediterranean Country: first assessment on energy and thermal comfort. Plea Conference proceedings, July 11-13 2016, Los Angeles, USA, pp 402-407.
11. Iannaccone, G.; Salvalai, G.; Sesana, M. M.; Paolini, R. Integrated approaches for large scale energy retrofitting of existing residential building through innovative external insulation prefabricated panels. Expanding Boundaries Systems. Thinking in the Built Environment. Sustainable Built Environment (SBE) Regional Conference Zurich 2016, pp. 636-643.
12. Iannaccone G., Salvalai, G., Sesana M.M., Paolini R. Caratterizzazione prestazionale e sviluppo tecnologico esecutivo di pannelli prefabbricati per l'isolamento termico degli edifici esistenti, pp, 1-10, ISBN 9788890364723.
13. Malighetti, L.E.; Salvalai, G.; Luchini, L.; Girola, S., Sviluppo di un metodo per la riqualificazione energetica del parco edilizio scolastico della città di Lecco. Development of a method for the energy renovation of the school buildings stock of the municipality of Lecco. Colloqui.AT.e 2016, Mater(i)a. Materials, Architecture, Technology, Energy/Environment, Reuse (interdisciplinarity), Adaptability, pp. 599-608.
14. Grecchi, M., Iannaccone, G., Salvalai, G., La Ricerca nel campo della riqualificazione energetica degli edifice. Colloqui.ATe 2015. L'evoluzione del sapere in Architettura Tecnica, Maggioli Editore, pp. 149-156.
15. G. Masera, G. Iannaccone, G. Salvalai. Retrofitting the existing envelope of residential buildings: innovative technologies, performance assessment and design methods. pp. 987-994. In Advanced Building Skins - Conference Proceedings of the 9th Energy Forum, 2014 – ISBN 9783981205374.
16. Imperadori, M., Pusceddu, C., Salvalai, G., Thermal-reflective multilayer insulation systems in the emergency architecture: the Air Shelter Skin. pp. 1-6 in PLEA 2013 - 29th Conference, Sustainable Architecture for a Renewable Future, Monaco – ISBN: 9783816790532.
17. M. Grecchi; M.M. Sesana; G. Salvalai; G. Masera, Guidelines for residential zero energy buildings by an integrated design approach with a support toolbox. pp.1-6 in PLEA2013 - 29th Conference, Sustainable Architecture for a Renewable Future - ISBN:9783816790532.
18. M. Imperadori, G. Salvalai, A. Meoli the innovation incubator: six years of achievements, 6th International Technology, Education and Development Conference, 5-7 Marzo, 2012, Valencia, Spain.
19. Imperadori, M., Masera, G., Salvalai, G., RACEM " Rete Artigiana per la Casa Efficiente in Montagna" Ed. ISTeA – Italian Society of Science, Technology and engineering of Architecture, Ottobre, 2012, Milano, Italia.
20. Sesana, M., M., Salvalai G., Esposito F., A sensitivity analysis approach: simulation tools as support at the early stage of low energy housing design. Architecture & Sustainable Development (vol.2 - PLEA 2011) 27th International Conference on Passive and Low Energy Architecture, 13-15 July 2011 Louvain-la-Neuve, Belgium, pp. 223-228, ISBN: 978-2-87463-277-8, *(Indicizzata in Scopus)*.
21. Salvalai, G., Frontini, F., Zambelli, E, Masera, G., Ghilardi, G., Integrated Design of low-energy houses in Selvino, Italia, SB10, Sustainable Building Affordable for All, 17-18-19 Marzo 2010, Algarve, Portugal, pp. 807-813, ISBN: 978-989-96543-1-0.
22. Frontini, F. Zambelli, E., Masera, G., Salvalai, G., Sustainable Smart-ECO Buildings: an integrated energy and architecture design (IEAD) process to optimize the design of the new buildings for the Technical University in Lecco, Italia, Clima 2010, 10th Rehva world congress "Sustainable Energy Use in Building", 9-12 Maggio Antalya, Turkey, ISBN: 978-975-6907-14-6.

23. Salvalai, G., Zambelli, E. A case study of low-energy houses in northern Italy, CESB10, Central Europe Towards Sustainable Building, From Theory to Practice, 30 June-02 July 2010, Prague, Czech Republic, pp. 169-172, ISBN: 978-80-247-3634-1, *(Indicizzata in Scopus).*
24. Salvalai, G., Masera, G., Sesana, M. M., Frontini, F., Normative, strumenti e un caso studio di Zero energy housing in Italia, Ed. ISTeA – Italian Society of Science, Technology and engineering of Architecture, Isola d'Elba, Italia, June 18th – 20th, 2010, CD version ISBN 978- 88-901744-9-0
25. Salvalai, G., Pfafferott, J., Dirk J., Validation of whole building simulation in IDA-ICE environment, SimBuild 2010, 4th National conference of IBPSA-USA, 11-13 August 2010, New York, USA, Proceedings online at the website http://www.ibpsa.us/sb10pub.shtml.
26. Pfafferott J., Jacob D., Kalz. D., Salvalai G., Evaluation of a low-energy cooling concept using a coupled building and plant simulation model, 3rd international conference Palenc 2010, 29 September - 1 October 2010, Rhodes Island, Greece, ISBN : 978-960-6746-08-6.
27. Frontini, F., Salvalai, G., Sesana, M.M., An accurate approach to evaluate the solar control strategies and the artificial light load within building simulation, 47th AICARR International conference, 8-9 Ottobre, 2009, Tivoli, Italia, pp. 835-848, ISBN 978-88-95620-53-4.
28. Salvalai, G., Sesana, M.M., Frontini, F., "Overview on energy balance for a building model in temperate climate with three different simulation tools", 23-24 Ottobre, 2009 - Nicosia, Cyprus, pp. 1-10.
29. Frontini, F., Salvalai, G., Sesana, M.M., How to evaluate the daylight strategies and the artificial light load within building energy simulation program: an accurate approach, Renewable Energy Sources & Energy Efficiency, Ottobre 23-24th, 2009 - Nicosia, Cyprus, pp. 1-10.
30. Salvalai, G., Sistemi passivi per il controllo climatico estivo negli edifici per uffici: strumenti di progettazione e sistemi tecnologici per il clima mediterraneo, Atti giornata CODAT Coordinamento dottorandi e dottori di ricerca in architettura tecnica, Novembre 2009, Messina, Italia, pp. 167-170, ISBN: 978-88-6055-459-8.
31. Salvalai G., L'uso dell'attivazione termica della massa nel contesto italiano, Ed. ISTeA – Italian Society of Science, Technology and engineering of Architecture, June 18th – 20th, 2009, Isola d'Elba, Italia, CD version ISBN 978-88-901744-8 -3.
32. Salvalai G., L' importanza del controllo solare in edifici per uffici con sistemi radianti ad attivazione termica, Ed. ISTeA – Italian Society of Science, Technology and engineering of Architecture, June, 2008, Lerici, Italia, pp. 136-145, ISBN: 978-88-548-3039-4.

JOURNAL PUBLICATIONS

1. Salvalai, G. Implementation and validation of simplified heat pump model in IDA-ICE energy simulation environment, Energy and Buildings 49, June 2012, pp, 132-141.
2. Sesana, M. M., Salvalai, G. Overview on life cycle methodologies and economic feasibility for nZEBs. Building and Environment, 67, pp 211-216, ISSN: 0360-1323.
3. Salvalai, G. Pfafferott J., Sesana M.M., Assessing energy and thermal comfort of different low-energy cooling concepts for non-residential buildings. Energy Conversiona and Menagement, 76, pp 332-341, ISSN 0196-8904.
4. Engelmann, P., Kalz. E. D., Salvalai, G. Cooling concepts for non-residential buildings: A comparison of cooling concepts in different climate zones. Energy and Buildings, 82, October 2014, pp 132-447-456, ISSN 0378-7788.
5. Salvalai, G., Imperadori, M., Scaccabarozzi D., Pusceddu, C. Thermal performance measurement and application of a multilayer insulator for emergency architecture. Applied Thermal Engineering, 82, May 2015, pp. 110-119, ISSN 1359-4311.
6. Salvalai, G., Masera, G., Sesana M.M. Italian local codes for energy efficiency of buildings: Theoretical definition and experimental application to a residential case study. Renewable and sustainable Energy Review, 42, February 2015, pp, 1245-1259, ISSN 1364-0321.

7. Sesana M. M, Grecchi M., Salvalai G., Rasica, C., Methodology of energy efficient building refurbishment: Application on two university campus-building case studies in Italy with engineering students, Journal of Building Engineering, 6, June 2016, pp. 54-64, ISSN: 2352-7102.
8. Imperadori M., Salvalai G., Pusceddu C., Air shelter house technology and its application to shelter units: the case of scaffold house and cardboard Shelter installations, Procedia Economics and Finance, 18, pp. 552-55.
9. Pusceddu C., Blumberg G., Salvalai G., Imperadori M., The use of Building Technology to support Disaster Resilience: The case study of Air Shelter House. Journal of disaster resilience in the built environment, Vol.8, 2, 2017, pp.139-157, ISSN: 1759-5908.
10. Salvalai, G., Malighetti, L.E., Luchini, L., Girola, S., Analysis of different energy conservation strategies on existing school buildings in a Pre-Alpine Region, Energy and Buildings,145, June 2017, Pages 92-106, ISSN 0378-7788.
11. Brambilla, A., Salvalai, G., Tonelli, C., Imperadori, M.,Comfort analysis applied to the international standard "Active House": The case of RhOME, the winning prototype of Solar Decathlon 2014, Journal of Building Engineering, Volume 12, July 2017, pp. 210-218, ISSN: 2352-7102.
12. Salvalai, G., Sesana M.M., Iannaccone G., Deep renovation of multi-storey multi-owner existing residential buildings: A pilot case study in Italy, Energy and Buildings, 148, August 2017, pp. 23-36, ISSN 0378-7788.
13. Brambilla A., Salvalai, G., Imperadori, m., Sesana M.M., Nearly zero energy building renovation: From energy efficiency to environmental efficiency, a pilot case study, Energy and Buildings, Volume 166, 1 May 2018, Pages 271-283.
14. Salvalai, G., (2018). Experimental analysis of different multilayer insulated façade. TEMA, vol. 4, p. 25-35, ISSN: 2421-4574.
15. M. Lovati, G. Salvalai, G. Fratus, L. Maturi, ALBATICI, ROSSANO, D. Moser (2019). New method for the early design of BIPV with electric storage: a case study in northern Italy. SUSTAINABLE CITIES AND SOCIETY, vol. _, p. _, ISSN: 2210-6707, doi: 10.1016/j.scs.2018.12.028.
16. Sesana, M.M.; Salvalai, G; Greslou, O; Rivallain, M; Zirngibl, JLong - Term Renovation Strategies, Energy Voluntary Certification Scheme and Building Renovation Passport: an overview on Energy Performance Certification tools for the European Building stock. IOP CONFERENCE SERIES. EARTH AND ENVIRONMENTAL SCIENCE (ISSN: 1755-1315) v. 296 p 1-12.
17. Doubleday, Kate, Hafiz, Faeza, Parker, Andrew, Elgindy, Tarek, Florita, Anthony, Henze, Gregor, Salvalai, Graziano, Pless, Shanti, Hodge, Bri-Mathias (2019). Integrated distribution system and urban district planning with high renewable penetrations. WILEY INTERDISCIPLINARY REVIEWS. ENERGY AND ENVIRONMENT, vol. 8, p. 1-15, ISSN: 2041-8396, doi: 10.1002/wene.339.
18. Salvalai, G., Grecchi M., Sesana M. M., Rivaillant M (2019). From the energy performance certificate to the building renovation passport. TEMA, vol. 5, p. 84-94, ISSN: 2421-4574
19. Salvalai, G., Sesana M. M. (2019). EXPERIMENTAL ANALYSIS OF DIFFERENT INSULATED FAÇADE TECHNOLOGIES IN SUMMER CONDITION. JOURNAL OF GREEN BUILDING, vol. 4, p. 81-95, ISSN: 1943-4618.
20. Sesana, M. M., Salvalai, G., Rivallain, M., (2020). Overview of the Available Knowledge for the Data Model Definition of a Building Renovation Passport for Non-Residential Buildings: The ALDREN Project Experience. SUSTAINABILITY, vol. 12, p. 1-17, ISSN: 2071-1050, doi: 10.3390/su12020642.

INVITED JOURNAL PUBLICATIONS

1. Salvalai, G, Integrazione edificio-impianti, in "Il Sole 24 Ore – Arketipo", n. 41, Aprile 2010.
2. Salvalai, G., Type A, in "Il Sole 24 Ore – Arketipo", n. 43, pp. 96-105, Maggio 2010.
3. Salvalai, G., Villaggio Ecologico di Selvino, in "Il Sole 24 Ore – Arketipo", Supplemento al n. 44, fascicolo 7, pp. 52-55, Giugno 2010.

4. Salvalai, G., Solar Decathlon 2009, in “Il Sole 24 Ore – Arketipo”, Supplemento al n. 47, pp. 42 - 45, Ottobre 2010, ISSN: 1828-4450.
5. Salvalai, G., Green lighthouse, in “Il Sole 24 Ore – Arketipo”, Supplemento al n. 47, pp. 50 – 53, Ottobre 2010, ISSN: 1828-4450.
6. Salvalai, G., Rifugio alpino Monte Rosa, in “Il Sole 24 Ore – Arketipo”, Supplemento al n. 47, pp. 58 – 61, Ottobre 2010, ISSN: 1828-4450.
7. Salvalai, G., Risparmio energetico e sistemi ad attivazione termica della massa TABS – thermo active building system, in INGEGNERI n° 12 Dicembre 2010, pp. 1-2, ISSN: 2035-8989.
8. Salvalai, G., Solaris, Fusionopolis, in “Il Sole 24 Ore – Arketipo”, n. 52, pp. 102 - 113, Aprile 2011. ISSN: 1828-4450, ISSN: 1828-4450.
9. Salvalai, G.,The Water House, in Shanghai, China, in “Il Sole 24 Ore – Arketipo”, n. 56, pp. 72 – 83, Ottobre 2011, ISSN: 1828-4450.
10. Salvalai G., Masera G., Il patto dei Sindaci dei Laghi Bergamaschi, il piano d’azione per l’energia sostenibile, in INGEGNERI, n° 1 Gennaio - Febbraio 2012, pp. 4, ISSN: 2035-8989.
11. Salvalai, G., Quattro corti in Saint Petersburg, Russia in “Il Sole 24 Ore – Arketipo”, n. 60, pp. 62 - 71, Aprile 2012, ISSN: 1828-4450.
12. Salvalai, G., Para Eco-House –in “Il Sole 24 Ore – Arketipo”, n. 67 (14), pp. 28 – 33, September 2012, ISSN: 1828-4450.
13. Salvalai, G., Counter Entropy House –in “Il Sole 24 Ore – Arketipo”, n. 67 (14), pp. 52 – 57, September 2012, ISSN: 1828-4450.
14. Salvalai, G., NIOO – Netherlands Institute for Ecological Research in Wageningen, Netherland in “Il Sole 24 Ore – Arketipo”, n. 73, pp. 98 – 109, Maggio 2013, ISSN: 1828-4450.
15. Salvalai, G., The Centre for Interactive Research on Sustainability (CIRS) a Vancouver, British Columbia, in “Newbusinessmedia – Arketipo”, n. 81, pp. 38 – 49, March 2014, ISSN: 1828-4450.
16. Salvalai, G., Leventis Art Gallery - Nicosia, Cyprus, in “Newbusinessmedia – Arketipo”, n. 98, pp. 66 – 75, December 2015, ISSN: 1828-4450.
17. Salvalai, G., Risparmio. Con I nuovi decreti normative a regime, in “Ambiente e Sicurezza” Newbusinessmedia – pp. 44-59, Ottobre 2015
18. Salvalai, G., Smart Campus as Urban Open Lab, *Mo*dulo, vol. 399, June 2016, p 28.
19. Salvalai, G., Galfa Tower. ARKETIPO, vol. 116, 2017, p. 90-99, ISSN: 1828-4450
20. Salvalai, G., Biblioteca Universitaria Centrale. ARKETIPO, vol. 111, 2017, p. 2-9, ISSN: 1828-4450.
21. Salvalai, G., Symbiosis. ARKETIPO, vol. 120, p. 92-99, 2018, ISSN: 1828-4450.
22. Salvalai, G., ISOZAKI TOWER. ARKETIPO, vol. 122, p. 86-93, 2018, ISSN: 1828-4450.
23. Salvalai, G., Hotel il sereno. ARKETIPO, vol. 118, p. 88-97, 2018, ISSN: 1828-4450.
24. Salvalai, G., Engie Headquarters. ARKETIPO, vol. 123, p. 98-105, ISSN: 1828-4450.
25. Salvalai, G., VIA DELL’ANNUNCIATA, 14, MILANO. ARKETIPO, vol. 126, 2019, p. 92-99, ISSN: 1828-4450.
26. Salvalai, G., NÒVAMPÈRE - MILAN, ITALY. ARKETIPO, vol. 132, 2019, p. 92-99, ISSN: 1828-4450.
27. Favole, P., Salvalai, G., NATIONAL MUSEUM OF QATAR. ARKETIPO, vol. 130, p. 2-17, ISSN: 1828-4450

BOOK AND BOOK CHAPTER

1. Salvalai, G. RACEM: Rete Artigiana per la Casa Efficiente in Montagna. Editor: Ramponi Arti Grafiche, May 2015, ISBN 978-88-905-8073-4.
2. Grecchi, M., Iannaccone G., Salvalai G. (2015). LA RICERCA NEL CAMPO DELLA RIQUALIFICAZIONE ENERGETICA DEGLI EDIFICI ESISTENTI. In: (a cura di): Cecilia Mazzoli Davide Prati, Colloqui.ATe 2015. L'evoluzione del sapere in Architettura Tecnica. p. 149-156, Maggioli Editori, ISBN: 9788891619068

3. Salvalai, G., 2020 Edifici ad energia quasi zero (NZEB). La simulazione energetica dinamica come strumento di controllo e ottimizzazione del comfort termico e del fabbisogno di energia. Maggioli Editore, Santarcangelo di Romagna, 2015, ISBN:978-88-916-1206-9.
4. Imperadori, M; Brambilla, A; Brunone, F; Feifer, L; Salvalai, G; Vanossi, A. ACTIVE HOUSE. Progettazione e innovazione con tecnologie di costruzione stratificata a secco, Maggioli editore, ISBN 9788891630728
5. Feifer L.; Imperadori M.; Salvalai G.; Brambilla A.; Brunone, F. Active House: Smart Nearly Zero Energy Buildings, Springer International Publishing. ISBN: 978-3-319-90813-7; 978-3-319-90814-4.
6. Imperadori, M., Salvalai, G., Vanossi A., Brunone, F., (2019). SMALL IS MORE. Wooden Pavilion As a Path of Research. In: (a cura di): F. Bianconi M. Filipucci, Digital Wood Design. Lecture Notes in Civil Engineering. LECTURE NOTES IN CIVIL ENGINEERING, p. 1501-1535, Springer, Cham, ISBN: 978-3-030-03675-1, ISSN: 2366-2557.
7. *Imperadori, M.; Salvalai, G.; Sesana, M. M.; Rosa, S.; Montanelli, C.* Borboleta and Papagaio: Emergency Unit and Children's Nutritional Center in Farim - Guinea-Bissau. pp.99-110. In Innovative Models for Sustainable Development in Emerging African Countries, 2020 - ISBN:978-3-030-33322-5.
8. *Salvalai, G.; Imperadori, M.; Sesana, M. M., Crippa, G. Ski Yurt: Upcycle of Downhill Skis for a Shelter in Cacine—Guinea-Bissau. DOI:10.1007/978-3-030-33323-2. pp.71-82. In Innovative Models for Sustainable Development in Emerging African Countries, 2020 - ISBN:978-3-030-33322-5.*

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- Energy Conversion and Management (ISSN: 0196-8904), 2016-01-08
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- Energies (ISSN 1996-1073), 2015-10
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